



1102-98.TXT

SEQUENCE LISTING

<110> Kainoh, Mie
Tanaka, Toshiaki

<120> Chimeric Proteins, their Heterodimer
Complexes, and Platelet Substitutes

<130> 1102-98

<140> 09/155,514

<141> 1998-11-17

<150> WO PCT/JP98/00370

<151> 1998-01-29

<150> JP 9-15118

<151> 1997-01-29

<150> JP-9-234544

<151> 1997-08-29

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Asn	Trp	Leu	Ala	Asn	Ala	Ser	Val	Ile	Asn	Pro	Gly	Ala	Ile	Tyr	Arg	
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Cys	Arg	Ile	Gly	Lys	Asn	Pro	Gly	Gln	Thr	Cys	Glu	Gln	Leu	Gln	Leu	
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Glu	Val	Val	Gly	Gly	Ala	Pro	Gln	His	Glu	Gln	Ile	Gly	Lys	Ala	Tyr	
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ata	ttc	agc	att	gat	gaa	aaa	gaa	cta	aat	atc	tta	cat	gaa	atg	aaa	912
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gtc Val	atc Ile	agt Ser 595	aaa Lys	cga Arg	agt Ser	aca Thr	gag Glu 600	gaa Glu	ttc Phe	cca Pro	cca Pro	ctt Leu 605	cag Gln	cca Pro	att Ile	1824
ctt Leu	cag Gln 610	cag Gln	aag Lys	aaa Lys	gaa Glu	aaa Lys 615	gac Asp	ata Ile	atg Met	aaa Lys	aaa Lys 620	aca Thr	ata Ile	aac Asn	ttt Phe	1872
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aga Arg	gtg Val 770	act Thr	gta Val	gca Ala	ata Ile	cct Pro 775	tta Leu	aaa Lys	tat Tyr	gag Glu 780	gtt Val	aag Lys	ctg Leu	act Thr	gtt Val	2352
cat His 785	ggg Gly	ttt Phe	gta Val	aac Asn	cca Pro 790	act Thr	tca Ser	ttt Phe	gtg Val	tat Tyr 795	gga Gly	tca Ser	aat Asn	gat Asp	gaa Glu 800	2400
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Lys Ser Cys Gly Glu Cys Ile Gln Ala Gly Pro Asn Cys Gly Trp Cys	
35 40 45	
aca aat tca aca ttt tta cag gaa gga atg cct act tct gca cga tgt	192
Thr Asn Ser Thr Phe Leu Gln Glu Gly Met Pro Thr Ser Ala Arg Cys	
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gat gat tta gaa gcc tta aaa aag aag ggt tgc cct cca gat gac ata	240
Asp Asp Leu Glu Ala Leu Lys Lys Lys Gly Cys Pro Pro Asp Asp Ile	
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Glu Asn Pro Arg Gly Ser Lys Asp Ile Lys Lys Asn Lys Asn Val Thr	
85 90 95	
aac cgt agc aaa gga aca gca gag aag ctc aag cca gag gat att cat	336
Asn Arg Ser Lys Gly Thr Ala Glu Lys Leu Lys Pro Glu Asp Ile His	
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cag atc caa cca cag cag ttg gtt ttg cga tta aga tca ggg gag cca	384
Gln Ile Gln Pro Gln Gln Leu Val Leu Arg Leu Arg Ser Gly Glu Pro	
115 120 125	
cag aca ttt aca tta aaa ttc aag aga gct gaa gac tat ccc att gac	432
Gln Thr Phe Thr Leu Lys Phe Lys Arg Ala Glu Asp Tyr Pro Ile Asp	
130 135 140	
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ctg Leu	ctg Leu	gtg Val 275	ttt Phe	tcc Ser	aca Thr	gat Asp	gcc Ala 280	ggg Gly	ttt Phe	cac His	ttt Phe	gct Ala 285	gga Gly	gat Asp	ggg Gly	864
aaa Lys	ctt Leu 290	ggt Gly	ggc Gly	att Ile	gtt Val	tta Leu 295	cca Pro	aat Asn	gat Asp	gga Gly	caa Gln 300	tgt Cys	cac His	ctg Leu	gaa Glu	912
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gtt Val	act Thr	gaa Glu 340	gaa Glu	ttt Phe	cag Gln	cct Pro	gtt Val	tac Tyr 345	aag Lys	gag Glu	ctg Leu	aaa Lys	aac Asn 350	ttg Leu	atc Ile	1056
cct Pro	aag Lys	tca Ser 355	gca Ala	gta Val	gga Gly	aca Thr	tta Leu 360	tct Ser	gca Ala	aat Asn	tct Ser	agc Ser 365	aat Asn	gta Val	att Ile	1104
cag Gln 370	ttg Leu	atc Ile	att Ile	gat Asp	gca Ala	tac Tyr 375	aat Asn	tcc Ser	ctt Leu	tcc Ser	tca Ser 380	gaa Glu	gtc Val	att Ile	ttg Leu	1152
gaa Glu 385	aac Asn	ggc Gly	aaa Lys	ttg Leu	tca Ser 390	gaa Glu	gga Gly	gta Val	aca Thr	ata Ile 395	agt Ser	tac Tyr	aaa Lys	tct Ser	tac Tyr 400	1200
tgc Cys	aag Lys	aac Asn	ggg Gly 405	gtg Val	aat Asn	gga Gly	aca Thr	ggg Gly	gaa Glu 410	aat Asn	gga Gly	aga Arg	aaa Lys	tgt Cys 415	tcc Ser	1248
aat Asn	att Ile	tcc Ser	att Ile 420	gga Gly	gat Asp	gag Glu	gtt Val	caa Gln 425	ttt Phe	gaa Glu	att Ile	agc Ser	ata Ile 430	act Thr	tca Ser	1296

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aat Asn	aag Lys	tgt Cys 435	cca Pro	aaa Lys	aag Lys	gat Asp 440	tct Ser 440	gac Asp	agc Ser	ttt Phe	aaa Lys	att Ile 445	agg Arg	cct Pro	ctg Leu	1344
ggc Gly 450	ttt Phe	acg Thr	gag Glu	gaa Glu	gta Val	gag Glu 455	gtt Val	att Ile	ctt Leu	cag Gln	tac Tyr 460	atc Ile	tgt Cys	gaa Glu	tgt Cys	1392
gaa Glu 465	tgc Cys	caa Gln	agc Ser	gaa Glu	ggc Gly 470	atc Ile	cct Pro	gaa Glu	agt Ser	ccc Pro 475	aag Lys	tgt Cys	cat His	gaa Glu	gga Gly 480	1440
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ggc Gly 610	cgg Arg	ggc Gly	atc Ile	tgc Cys	gag Glu	tgt Cys 615	ggt Gly	gtc Val	tgt Cys	aag Lys	tgt Cys 620	aca Thr	gat Asp	ccg Pro	aag Lys	1872
ttt Phe 625	caa Gln	ggg Gly	caa Gln	acg Thr	tgt Cys 630	gag Glu	atg Met	tgt Cys	cag Gln	acc Thr 635	tgc Cys	ctt Leu	ggt Gly	gtc Val	tgt Cys 640	1920
gct Ala	gag Glu	cat His	aaa Lys	gaa Glu 645	tgt Cys	gtt Val	cag Gln	tgc Cys	aga Arg 650	gcc Ala	ttc Phe	aat Asn	aaa Lys	gga Gly 655	gaa Glu	1968
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gta Val	gaa Glu	agt Ser 675	cgg Arg	gac Asp	aaa Lys	tta Leu	ccc Pro 680	cag Gln	ccg Pro	gtc Val	caa Gln	cct Pro 685	gat Asp	cct Pro	gtg Val	2064

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Ser His Cys Lys Glu Lys Asp Val Asp Asp Cys Trp Phe Tyr Phe Thr	
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Tyr Ser Val Asn Gly Asn Asn Glu Val Met Val His Val Val Glu Asn	
705 710 715 720	
cca gag tgt ccc act ggt cca gag gat ccc gag ctgctggaag caggctcagc	2213
Pro Glu Cys Pro Thr Gly Pro Glu Asp Pro Glu	
725 730	
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Glu Pro Lys Ser Cys Asp	
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aaa act cac aca tgc cca ccg tgc cca ggtaagccag cccaggcctc	2615
Lys Thr His Thr Cys Pro Pro Cys Pro	
740 745	
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Ala Pro Glu Leu Leu Gly	
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Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met	
755 760 765	
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Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His	
770 775 780	
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Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val	
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cat aat gcc aag aca aag ccg cgg gag gag cag tac aac agc acg tac	2923
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr	
805 810 815	
cgg gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat ggc	2971
Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly	
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aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc atc	3019
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile	
835 840 845	
gag aaa acc atc tcc aaa gcc aaa ggtgggaccc gtgggggtgcg agggccacat	3073
Glu Lys Thr Ile Ser Lys Ala Lys	
850 855	
ggacagaggc cggctcggcc caccctctgc cctgagagtg accgctgtac caacctctgt	3133
cctaca ggg cag ccc cga gaa cca cag gtg tac acc ctg ccc cca tcc	3181
Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser	
860 865 870	

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cgg gat gag ctg acc aag aac cag gtc agc ctg acc tgc ctg gtc aaa 3229
Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
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ggc ttc tat ccc agc gac atc gcc gtg gag tgg gag agc aat ggg cag 3277
Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
890 895 900

ccg gag aac aac tac aag acc acg cct ccc gtg ctg gat tcc gac ggc 3325
Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
905 910 915

tcc ttc ttc ctc tac agc aag ctc acc gtg gac aag agc agg tgg cag 3373
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920 925 930

cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac 3421
Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
935 940 945 950

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Leu	Thr	Cys	Gly	Pro	Leu	Trp	Ala	Gln	Gln	Cys	Gly	Asn	Gln	Tyr	Tyr			
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Gln	Gly	Thr	Ile	Arg	Thr	Lys	Tyr	Ser	Gln	Lys	Ile	Leu	Gly	Ser	Asp	
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gga	gcc	ttt	agg	agc	cat	ctc	cag	tac	ttt	ggg	agg	tcc	ttg	gat	ggc	1872
Gly	Ala	Phe	Arg	Ser	His	Leu	Gln	Tyr	Phe	Gly	Arg	Ser	Leu	Asp	Gly	
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tat	gga	gat	tta	aat	ggg	gat	tcc	atc	acc	gat	gtg	tct	att	ggt	gcc	1920
Tyr	Gly	Asp	Leu	Asn	Gly	Asp	Ser	Ile	Thr	Asp	Val	Ser	Ile	Gly	Ala	
625					630					635					640	
ttt	gga	caa	gtg	gtt	caa	ctc	tgg	tca	caa	agt	att	gct	gat	gta	gct	1968
Phe	Gly	Gln	Val	Val	Gln	Leu	Trp	Ser	Gln	Ser	Ile	Ala	Asp	Val	Ala	
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ata	gaa	gct	tca	ttc	aca	cca	gaa	aaa	atc	act	ttg	gtc	aac	aag	aat	2016
Ile	Glu	Ala	Ser	Phe	Thr	Pro	Glu	Lys	Ile	Thr	Leu	Val	Asn	Lys	Asn	
			660					665					670			
gct	cag	ata	att	ctc	aaa	ctc	tgc	ttc	agt	gca	aag	ttc	aga	cct	act	2064
Ala	Gln	Ile	Ile	Leu	Lys	Leu	Cys	Phe	Ser	Ala	Lys	Phe	Arg	Pro	Thr	
		675					680					685				
aag	caa	aac	aat	caa	gtg	gcc	att	gta	tat	aac	atc	aca	ctt	gat	gca	2112
Lys	Gln	Asn	Asn	Gln	Val	Ala	Ile	Val	Tyr	Asn	Ile	Thr	Leu	Asp	Ala	
	690					695					700					
gat	gga	ttt	tca	tcc	aga	gta	acc	tcc	agg	ggg	tta	ttt	aaa	gaa	aac	2160
Asp	Gly	Phe	Ser	Ser	Arg	Val	Thr	Ser	Arg	Gly	Leu	Phe	Lys	Glu	Asn	
705					710					715					720	
aat	gaa	agg	tgc	ctg	cag	aag	aat	atg	gta	gta	aat	caa	gca	cag	agt	2208
Asn	Glu	Arg	Cys	Leu	Gln	Lys	Asn	Met	Val	Val	Asn	Gln	Ala	Gln	Ser	
				725					730					735		
tgc	ccc	gag	cac	atc	att	tat	ata	cag	gag	ccc	tct	gat	gtt	gtc	aac	2256
Cys	Pro	Glu	His	Ile	Ile	Tyr	Ile	Gln	Glu	Pro	Ser	Asp	Val	Val	Asn	
			740					745					750			
tct	ttg	gat	ttg	cgt	gtg	gac	atc	agt	ctg	gaa	aac	cct	ggc	act	agc	2304
Ser	Leu	Asp	Leu	Arg	Val	Asp	Ile	Ser	Leu	Glu	Asn	Pro	Gly	Thr	Ser	
		755					760					765				
cct	gcc	ctt	gaa	gcc	tat	tct	gag	act	gcc	aag	gtc	ttc	agt	att	cct	2352
Pro	Ala	Leu	Glu	Ala	Tyr	Ser	Glu	Thr	Ala	Lys	Val	Phe	Ser	Ile	Pro	
	770					775					780					
ttc	cac	aaa	gac	tgt	ggc	gag	gat	gga	ctt	tgc	att	tct	gat	cta	gtc	2400
Phe	His	Lys	Asp	Cys	Gly	Glu	Asp	Gly	Leu	Cys	Ile	Ser	Asp	Leu	Val	
785					790					795					800	
cta	gat	gtc	cga	caa	ata	cca	gct	gct	caa	gaa	caa	ccc	ttt	att	gtc	2448
Leu	Asp	Val	Arg	Gln	Ile	Pro	Ala	Ala	Gln	Glu	Gln	Pro	Phe	Ile	Val	
				805					810					815		
agc	aac	caa	aac	aaa	agg	tta	aca	ttt	tca	gta	aca	ctg	aaa	aat	aaa	2496
Ser	Asn	Gln	Asn	Lys	Arg	Leu	Thr	Phe	Ser	Val	Thr	Leu	Lys	Asn	Lys	
			820					825					830			

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agg Arg	gaa Glu	agt Ser 835	gca Ala	tac Tyr	aac Asn	act Thr	gga Gly 840	att Ile	gtt Val	gtt Val	gat Asp	ttt Phe 845	tca Ser	gaa Glu	aac Asn	2544
ttg Leu	ttt Phe 850	ttt Phe	gca Ala	tca Ser	ttc Phe	tcc Ser 855	cta Leu	ccg Pro	gtt Val	gat Asp	ggg Gly 860	aca Thr	gaa Glu	gta Val	aca Thr	2592
tgc Cys 865	cag Gln	gtg Val	gct Ala	gca Ala	tct Ser 870	cag Gln	aag Lys	tct Ser	gtt Val	gcc Ala 875	tgc Cys	gat Asp	gta Val	ggc Gly	tac Tyr 880	2640
cct Pro	gct Ala	tta Leu	aag Lys	aga Arg 885	gaa Glu	caa Gln	cag Gln	gtg Val	act Thr 890	ttt Phe	act Thr	att Ile	aac Asn	ttt Phe 895	gac Asp	2688
ttc Phe	aat Asn	ctt Leu	caa Gln 900	aac Asn	ctt Leu	cag Gln	aat Asn	cag Gln 905	gcg Ala	tct Ser	ctc Leu	agt Ser 910	ttc Phe 910	caa Gln	gcc Ala	2736
tta Leu	agt Ser	gaa Glu 915	agc Ser	caa Gln	gaa Glu	gaa Glu	aac Asn 920	aag Lys	gct Ala	gat Asp	aat Asn	ttg Leu 925	gtc Val	aac Asn	ctc Leu	2784
aaa Lys	att Ile 930	cct Pro	ctc Leu	ctg Leu	tat Tyr	gat Asp 935	gct Ala	gaa Glu	att Ile	cac His	tta Leu 940	aca Thr	aga Arg	tct Ser	acc Thr	2832
aac Asn 945	ata Ile	aat Asn	ttt Phe	tat Tyr	gaa Glu 950	atc Ile	tct Ser	tcg Ser	gat Asp	ggg Gly 955	aat Asn	gtt Val	cct Pro	tca Ser	atc Ile 960	2880
gtg Val	cac His	agt Ser	ttt Phe	gaa Glu 965	gat Asp	gtt Val	ggt Gly	cca Pro	aaa Lys 970	ttc Phe	atc Ile	ttc Phe	tcc Ser	ctg Leu 975	aag Lys	2928
gta Val	aca Thr	aca Thr	gga Gly 980	agt Ser	gtt Val	cca Pro	gta Val	agc Ser 985	atg Met	gca Ala	act Thr	gta Val	atc Ile 990	atc Ile	cac His	2976
atc Ile	cct Pro	cag Gln 995	tat Tyr	acc Thr	aaa Lys	gaa Glu	aag Lys 1000	aac Asn	cca Pro	ctg Leu	atg Met	tac Tyr 1005	cta Leu	act Thr	ggg Gly	3024
gtg Val	caa Gln 1010	aca Thr	gac Asp	aag Lys	gct Ala	ggt Gly 1015	gac Asp	atc Ile	agt Ser	tgt Cys	aat Asn 1020	gca Ala	gat Asp	atc Ile	aat Asn	3072
cca Pro 1025	ctg Leu	aaa Lys	ata Ile	gga Gly	caa Gln 1030	aca Thr	tct Ser	tct Ser	tct Ser	gta Val 1035	tct Ser	ttc Phe	aaa Lys	agt Ser	gaa Glu 1040	3120
aat Asn	ttc Phe	agg Arg	cac His	acc Thr 1045	aaa Lys	gaa Glu	ttg Leu	aac Asn	tgc Cys 1050	aga Arg	act Thr	gct Ala	tcc Ser	tgt Cys 1055	agt Ser	3168
aat Asn	gtt Val	acc Thr	tgc Cys 1060	tgg Trp	ttg Leu	aaa Lys	gac Asp	gtt Val 1065	cac His	atg Met	aaa Lys	gga Gly	gaa Glu 1070	tac Tyr	ttt Phe	3216
gtt Val	aat Asn	gtg Val	act Thr	acc Thr	aga Arg	att Ile	tgg Trp	aac Asn	ggg Gly	act Thr	ttc Phe	gca Ala	tca Ser	tca Ser	acg Thr	3264

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ttc cag aca gta cag cta acg gca gct gca gaa atc aac acc tat aac			3312
Phe Gln Thr Val Gln Leu Thr Ala Ala Glu Ile Asn Thr Tyr Asn			
1090	1095	1100	
cct gag ata tat gtg att gaa gat aac act gtt acg att ccc ctg atg			3360
Pro Glu Ile Tyr Val Ile Glu Asp Asn Thr Val Thr Ile Pro Leu Met			
1105	1110	1115	1120
ata atg aaa cct gat gag aaa gcc gaa gta cca aca gat ccc gag			3405
Ile Met Lys Pro Asp Glu Lys Ala Glu Val Pro Thr Asp Pro Glu			
1125	1130	1135	
ctgctggaag caggctcagc gctcctgcct ggacgcatcc cggctatgca gccccagtcc			3465
agggcagcaa ggcaggcccc gtctgcctct tcacccggag cctctgcccg cccactcat			3525
gctcagggag agggcttctt ggctttttcc caggctctgg gcaggcacag gctaggtgcc			3585
cctaaccag gccctgcaca caaaggggca ggtgctgggc tcagacctgc caagagccat			3645
atccgggagg accctgcccc tgacctaacg ccaccccaaa ggccaaactc tccactccct			3705
cagctcggac accttctctc ctcccagatt ccagtaactc ccaatcttct ctctgca gag			3765
			Glu
ccc aaa tct tgt gac aaa act cac aca tgc cca ccg tgc cca			3807
Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro			
1140	1145	1150	
ggtaagccag cccaggcctc gccctccagc tcaaggcggg acagggtgcc tagagtagcc			3867
tgcatccagg gacaggcccc agccgggtgc tgacacgtcc acctccatct cttcctca			3925
gca cct gaa ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa			3973
Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys			
1155	1160	1165	
ccc aag gac acc ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg			4021
Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val			
1170	1175	1180	
gtg gtg gac gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac			4069
Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr			
1185	1190	1195	
gtg gac ggc gtg gag gtg cat aat gcc aag aca aag ccg cgg gag gag			4117
Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu			
1200	1205	1210	
cag tac aac agc acg tac cgg gtg gtc agc gtc ctc acc gtc ctg cac			4165
Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His			
1215	1220	1225	1230
cag gac tgg ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa			4213
Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys			
1235	1240	1245	
gcc ctc cca gcc ccc atc gag aaa acc atc tcc aaa gcc aaa			4255
Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys			
1250	1255	1260	
ggtgggaccc gtggggtgcg agggccacat ggacagaggc cggctcggcc caccctctgc			4315
cctgagagtgc accgctgtac caacctctgt cctaca ggg cag ccc cga gaa cca			4369
	Gly	Gln	Pro
			1265
cag gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag			4417

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Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln		
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gtc	agc	ctg	acc	tgc	ctg	gtc	aaa	ggc	ttc	tat	ccc	agc	gac	atc	gcc	4465	
Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala		
		1285					1290					1295					
gtg	gag	tgg	gag	agc	aat	ggg	cag	ccg	gag	aac	aac	tac	aag	acc	acg	4513	
Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr		
		1300				1305					1310						
cct	ccc	gtg	ctg	gat	tcc	gac	ggc	tcc	ttc	ttc	ctc	tac	agc	aag	ctc	4561	
Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu		
		1315			1320				1325						1330		
acc	gtg	gac	aag	agc	agg	tgg	cag	cag	ggg	aac	gtc	ttc	tca	tgc	tcc	4609	
Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser		
			1335						1340					1345			
gtg	atg	cat	gag	gct	ctg	cac	aac	cac	tac	acg	cag	aag	agc	ctc	tcc	4657	
Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser		
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Leu	Tyr	Gln	Gly	Pro	His	Asn	Thr	Leu	Phe	Gly	Tyr	Ser	Val	Val	Leu
	50					55					60				
His	Ser	His	Gly	Ala	Asn	Arg	Trp	Leu	Leu	Val	Gly	Ala	Pro	Thr	Ala
65					70					75					80
Asn	Trp	Leu	Ala	Asn	Ala	Ser	Val	Ile	Asn	Pro	Gly	Ala	Ile	Tyr	Arg
				85					90					95	
Cys	Arg	Ile	Gly	Lys	Asn	Pro	Gly	Gln	Thr	Cys	Glu	Gln	Leu	Gln	Leu
			100					105					110		
Gly	Ser	Pro	Asn	Gly	Glu	Pro	Cys	Gly	Lys	Thr	Cys	Leu	Glu	Glu	Arg
		115					120					125			
Asp	Asn	Gln	Trp	Leu	Gly	Val	Thr	Leu	Ser	Arg	Gln	Pro	Gly	Glu	Asn
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Gly	Ser	Ile	Val	Thr	Cys	Gly	His	Arg	Trp	Lys	Asn	Ile	Phe	Tyr	Ile
145					150					155					160
Lys	Asn	Glu	Asn	Lys	Leu	Pro	Thr	Gly	Gly	Cys	Tyr	Gly	Val	Pro	Pro
				165					170					175	
Asp	Leu	Arg	Thr	Glu	Leu	Ser	Lys	Arg	Ile	Ala	Pro	Cys	Tyr	Gln	Asp
			180					185					190		
Tyr	Val	Lys	Lys	Phe	Gly	Glu	Asn	Phe	Ala	Ser	Cys	Gln	Ala	Gly	Ile
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Ser	Ser	Phe	Tyr	Thr	Lys	Asp	Leu	Ile	Val	Met	Gly	Ala	Pro	Gly	Ser
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Ser	Tyr	Trp	Thr	Gly	Ser	Leu	Phe	Val	Tyr	Asn	Ile	Thr	Thr	Asn	Lys
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Tyr	Lys	Ala	Phe	Leu	Asp	Lys	Gln	Asn	Gln	Val	Lys	Phe	Gly	Ser	Tyr
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Leu	Gly	Tyr	Ser	Val	Gly	Ala	Gly	His	Phe	Arg	Ser	Gln	His	Thr	Thr
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Glu	Val	Val	Gly	Gly	Ala	Pro	Gln	His	Glu	Gln	Ile	Gly	Lys	Ala	Tyr
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Leu	Asn	Ala	Asp	Gly	Phe	Ser	Asp	Leu	Leu	Val	Gly	Ala	Pro	Met	Gln
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Ser	Thr	Ile	Arg	Glu	Glu	Gly	Arg	Val	Phe	Val	Tyr	Ile	Asn	Ser	Gly
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Asp	Leu	Gln	Gly	Ala	Ile	Tyr	Ile	Tyr	Asn	Gly	Arg	Ala	Asp	Gly	Ile
				405					410					415	
Ser	Ser	Thr	Phe	Ser	Gln	Arg	Ile	Glu	Gly	Leu	Gln	Ile	Ser	Lys	Ser
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Leu	Ser	Met	Phe	Gly	Gln	Ser	Ile	Ser	Gly	Gln	Ile	Asp	Ala	Asp	Asn
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Val	Leu	Leu	Arg	Thr	Arg	Pro	Val	Val	Ile	Val	Asp	Ala	Ser	Leu	Ser
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His	Pro	Glu	Ser	Val	Asn	Arg	Thr	Lys	Phe	Asp	Cys	Val	Glu	Asn	Gly
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Trp	Pro	Ser	Val	Cys	Ile	Asp	Leu	Thr	Leu	Cys	Phe	Ser	Tyr	Lys	Gly
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Lys	Glu	Val	Pro	Gly	Tyr	Ile	Val	Leu	Phe	Tyr	Asn	Met	Ser	Leu	Asp
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	Gly	Asp	Asp	Ala	Tyr	Glu	660	Thr	Thr	Leu	His	Val	665	Lys	Leu	Pro	Val	Gly
	Leu	Tyr	Phe	Ile	Lys	Ile	675	Leu	Glu	Leu	Glu	Glu	680	Lys	Gln	Ile	Asn	Cys
	Glu	Val	Thr	Asp	Asn	Ser	695	Gly	Val	Val	Gln	Leu	700	Asp	Cys	Ser	Ile	Gly
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	Asp	Val	Ser	Ser	Leu	Ser	725	Arg	Ala	Glu	Glu	Asp	730	Leu	Ser	Ile	Thr	Val
	His	Ala	Thr	Cys	Glu	Asn	740	Glu	Glu	Glu	Met	Asp	745	Asn	Leu	Lys	His	Ser
	Arg	Val	Thr	Val	Ala	Ile	755	Leu	Lys	Tyr	Glu	Val	760	Lys	Leu	Thr	Val	
	His	Gly	Phe	Val	Asn	Pro	775	Thr	Ser	Phe	Val	Tyr	780	Gly	Ser	Asn	Asp	Glu
785	Asn	Glu	Pro	Glu	Thr	Cys	790	Met	Val	Glu	Lys	Met	795	Asn	Leu	Thr	Phe	His
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865	Gly	Ile	Val	Arg	Phe	Leu	870	Ser	Lys	Thr	Asp	Lys	875	Arg	Leu	Leu	Tyr	Cys
	Ile	Lys	Ala	Asp	Pro	His	885	Cys	Leu	Asn	Phe	Leu	890	Cys	Asn	Phe	Gly	Lys
	Met	Glu	Ser	Gly	Lys	Glu	900	Ala	Ser	Val	His	Ile	905	Gln	Leu	Glu	Gly	Arg
	Pro	Ser	Ile	Leu	Glu	Met	915	Asp	Glu	Thr	Ser	Ala	920	Lys	Phe	Glu	Ile	
	Arg	Ala	Thr	Gly	Phe	Pro	935	Glu	Pro	Asn	Pro	Arg	940	Val	Ile	Glu	Leu	Asn
945	Lys	Asp	Glu	Asn	Val	Ala	950	His	Val	Leu	Leu	Glu	955	Gly	Leu	His	His	Gln
	Arg	Pro	Lys	Arg	Tyr	Phe	965	Thr	Asp	Pro	Glu	Glu	970	Pro	Lys	Ser	Cys	Asp
	Lys	Thr	His	Thr	Cys	Pro	980	Pro	Cys	Pro	Ala	Pro	985	Glu	Leu	Leu	Gly	Gly
	Pro	Ser	Val	Phe	Leu	Phe	995	Pro	Pro	Lys	Pro	Lys	1000	Asp	Thr	Leu	Met	Ile
	Ser	Arg	Thr	Pro	Glu	Val	1010	Thr	Cys	Val	Val	Val	1015	Asp	Val	Ser	His	Glu
1025							1030						1035					1040

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Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His
				1045					1050					1055	
Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg
			1060					1065					1070		
Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys
		1075					1080					1085			
Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu
	1090					1095					1100				
Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr
1105					1110					1115					1120
Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu
				1125						1130				1135	
Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp
			1140					1145					1150		
Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val
		1155					1160					1165			
Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp
	1170					1175					1180				
Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His
1185					1190					1195					1200
Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro
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Gly Lys

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 <211> 963
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> fusion protein

<400> 33

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			20					25					30		
Lys	Ser	Cys	Gly	Glu	Cys	Ile	Gln	Ala	Gly	Pro	Asn	Cys	Gly	Trp	Cys
		35					40					45			
Thr	Asn	Ser	Thr	Phe	Leu	Gln	Glu	Gly	Met	Pro	Thr	Ser	Ala	Arg	Cys
	50					55					60				
Asp	Asp	Leu	Glu	Ala	Leu	Lys	Lys	Lys	Gly	Cys	Pro	Pro	Asp	Asp	Ile
65					70					75					80
Glu	Asn	Pro	Arg	Gly	Ser	Lys	Asp	Ile	Lys	Lys	Asn	Lys	Asn	Val	Thr
			85						90					95	
Asn	Arg	Ser	Lys	Gly	Thr	Ala	Glu	Lys	Leu	Lys	Pro	Glu	Asp	Ile	His
			100					105					110		
Gln	Ile	Gln	Pro	Gln	Gln	Leu	Val	Leu	Arg	Leu	Arg	Ser	Gly	Glu	Pro
		115					120					125			
Gln	Thr	Phe	Thr	Leu	Lys	Phe	Lys	Arg	Ala	Glu	Asp	Tyr	Pro	Ile	Asp
	130					135					140				
Leu	Tyr	Tyr	Leu	Met	Asp	Leu	Ser	Tyr	Ser	Met	Lys	Asp	Asp	Leu	Glu
145					150					155				160	
Asn	Val	Lys	Ser	Leu	Gly	Thr	Asp	Leu	Met	Asn	Glu	Met	Arg	Arg	Ile
				165					170					175	
Thr	Ser	Asp	Phe	Arg	Ile	Gly	Phe	Gly	Ser	Phe	Val	Glu	Lys	Thr	Val
			180					185					190		
Met	Pro	Tyr	Ile	Ser	Thr	Thr	Pro	Ala	Lys	Leu	Arg	Asn	Pro	Cys	Thr
		195					200					205			
Ser	Glu	Gln	Asn	Cys	Thr	Thr	Pro	Phe	Ser	Tyr	Lys	Asn	Val	Leu	Ser
	210					215					220				

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Leu 225	Thr 225	Asn 225	Lys 225	Gly 225	Glu 230	Val 230	Phe 230	Asn 230	Glu 235	Leu 235	Val 235	Gly 235	Lys 235	Gln 235	Arg 240
Ile 245	Ser 245	Gly 245	Asn 245	Leu 245	Asp 245	Ser 245	Pro 245	Glu 245	Gly 250	Gly 250	Phe 250	Asp 250	Ala 255	Ile 255	Met 255
Gln 260	Val 260	Ala 260	Val 260	Cys 260	Gly 260	Ser 260	Leu 265	Ile 265	Gly 265	Trp 265	Arg 265	Asn 270	Val 270	Thr 270	Arg 270
Leu 275	Leu 275	Val 275	Phe 275	Ser 275	Thr 275	Asp 275	Ala 280	Gly 280	Phe 280	His 280	Phe 285	Ala 285	Gly 285	Asp 285	Gly 285
Lys 290	Leu 290	Gly 290	Gly 290	Ile 290	Val 290	Leu 295	Pro 295	Asn 295	Asp 295	Gly 295	Gln 300	Cys 300	His 300	Leu 300	Glu 300
Asn 305	Asn 305	Met 305	Tyr 305	Thr 305	Met 310	Ser 310	His 310	Tyr 310	Tyr 315	Asp 315	Tyr 315	Pro 315	Ser 315	Ile 315	Ala 320
His 325	Leu 325	Val 325	Gln 325	Lys 325	Leu 325	Ser 325	Glu 325	Asn 330	Asn 330	Ile 330	Gln 330	Thr 330	Ile 335	Phe 335	Ala 335
Val 340	Thr 340	Glu 340	Glu 340	Phe 340	Gln 340	Pro 340	Val 345	Tyr 345	Lys 345	Glu 345	Leu 345	Lys 345	Asn 350	Leu 350	Ile 350
Pro 355	Lys 355	Ser 355	Ala 355	Val 355	Gly 355	Thr 355	Leu 360	Ser 360	Ala 360	Asn 360	Ser 365	Ser 365	Asn 365	Val 365	Ile 365
Gln 370	Leu 370	Ile 370	Ile 370	Asp 370	Ala 370	Tyr 375	Asn 375	Ser 375	Leu 375	Ser 375	Ser 380	Glu 380	Val 380	Ile 380	Leu 380
Glu 385	Asn 385	Gly 385	Lys 385	Leu 385	Ser 390	Gly 390	Val 390	Thr 390	Ile 395	Ser 395	Tyr 395	Lys 395	Ser 395	Tyr 395	400
Cys 405	Lys 405	Asn 405	Gly 405	Val 405	Asn 405	Gly 405	Thr 405	Gly 410	Glu 410	Asn 410	Gly 410	Arg 410	Lys 415	Cys 415	Ser 415
Asn 420	Ile 420	Ser 420	Ile 420	Gly 420	Asp 420	Glu 420	Val 425	Gln 425	Phe 425	Glu 425	Ile 425	Ser 430	Ile 430	Thr 430	Ser 430
Asn 435	Lys 435	Cys 435	Pro 435	Lys 435	Lys 435	Asp 440	Ser 440	Asp 440	Ser 440	Phe 440	Lys 445	Ile 445	Arg 445	Pro 445	Leu 445
Gly 450	Phe 450	Thr 450	Glu 450	Glu 450	Val 455	Glu 455	Val 455	Ile 455	Leu 455	Gln 455	Tyr 460	Ile 460	Cys 460	Glu 460	Cys 460
Glu 465	Cys 465	Gln 465	Ser 465	Glu 465	Gly 470	Ile 470	Pro 470	Glu 470	Ser 475	Pro 475	Lys 475	Cys 475	His 475	Glu 475	Gly 480
Asn 485	Gly 485	Thr 485	Phe 485	Glu 485	Cys 485	Gly 485	Ala 485	Cys 485	Arg 490	Cys 490	Asn 490	Glu 490	Gly 495	Arg 495	Val 495
Gly 500	Arg 500	His 500	Cys 500	Glu 500	Cys 500	Ser 500	Thr 505	Asp 505	Glu 505	Val 505	Asn 505	Ser 510	Glu 510	Asp 510	Met 510
Asp 515	Ala 515	Tyr 515	Cys 515	Arg 515	Lys 515	Glu 515	Asn 520	Ser 520	Ser 520	Glu 520	Ile 520	Cys 525	Ser 525	Asn 525	Asn 525
Gly 530	Glu 530	Cys 530	Val 530	Cys 530	Gly 535	Gln 535	Cys 535	Val 535	Cys 535	Arg 535	Lys 540	Arg 540	Asp 540	Asn 540	Thr 540
Asn 545	Glu 545	Ile 545	Tyr 545	Ser 545	Gly 550	Lys 550	Phe 550	Cys 550	Glu 555	Cys 555	Asp 555	Asn 555	Phe 555	Asn 555	Cys 560
Asp 565	Arg 565	Ser 565	Asn 565	Gly 565	Leu 565	Ile 565	Cys 565	Gly 570	Gly 570	Asn 570	Gly 570	Val 570	Cys 575	Lys 575	Cys 575
Arg 580	Val 580	Cys 580	Glu 580	Cys 580	Asn 580	Pro 580	Asn 585	Tyr 585	Thr 585	Gly 585	Ser 585	Ala 585	Cys 590	Asp 590	Cys 590
Ser 595	Leu 595	Asp 595	Thr 595	Ser 595	Thr 595	Cys 595	Glu 600	Ala 595	Ser 595	Asn 595	Gly 595	Gln 595	Ile 595	Cys 595	Asn 595
Gly 610	Arg 610	Gly 610	Ile 610	Cys 610	Glu 615	Cys 615	Gly 615	Val 615	Cys 615	Lys 615	Cys 620	Thr 620	Asp 620	Pro 620	Lys 620
Phe 625	Gln 625	Gly 625	Gln 625	Thr 625	Cys 630	Glu 630	Met 630	Cys 630	Gln 635	Thr 635	Cys 635	Leu 635	Gly 635	Val 635	Cys 640
Ala 645	Glu 645	His 645	Lys 645	Glu 645	Cys 645	Val 645	Gln 645	Cys 645	Arg 650	Ala 650	Phe 650	Asn 650	Lys 655	Gly 655	Glu 655
Lys 660	Lys 660	Asp 660	Thr 660	Cys 660	Thr 660	Gln 660	Glu 665	Cys 665	Ser 665	Tyr 665	Phe 665	Asn 665	Ile 665	Thr 665	Lys 665
Val 675	Glu 675	Ser 675	Arg 675	Asp 675	Lys 675	Leu 675	Pro 680	Gln 680	Pro 680	Val 680	Gln 680	Pro 685	Asp 685	Pro 685	Val 685
Ser 690	His 690	Cys 690	Lys 690	Glu 690	Lys 690	Asp 690	Val 690	Asp 690	Asp 690	Cys 690	Trp 690	Phe 690	Tyr 690	Phe 690	Thr 690
Tyr 705	Ser 705	Val 705	Asn 705	Gly 705	Asn 710	Asn 710	Glu 710	Val 710	Met 715	Val 715	His 715	Val 715	Val 715	Glu 715	Asn 720
Pro 725	Glu 725	Cys 725	Pro 725	Thr 725	Gly 725	Pro 725	Glu 725	Asp 725	Pro 725	Glu 725	Glu 725	Pro 725	Lys 725	Ser 725	Cys 725

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Asp	Lys	Thr	His	725	Thr	Cys	Pro	Pro	Cys	730	Pro	Ala	Pro	Glu	Leu	735	Leu	Gly
Gly	Pro	Ser	Val	740	Phe	Leu	Phe	Pro	Pro	745	Lys	Pro	Lys	Asp	Thr	750	Leu	Met
Ile	Ser	Arg	Thr	755	Pro	Glu	Val	Thr	Cys	760	Val	Val	Val	Asp	Val	765	Ser	His
Glu	Asp	Pro	Glu	770	Val	Lys	Phe	Asn	Trp	775	Val	Val	Asp	Gly	Val	780	Glu	Val
785	His	Asn	Ala	Lys	790	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	795	Thr	Tyr
Arg	Val	Val	Ser	805	Val	Leu	Thr	Val	Leu	810	His	Gln	Asp	Trp	Leu	815	Asn	Gly
Lys	Glu	Tyr	Lys	820	Cys	Lys	Val	Ser	Asn	825	Lys	Ala	Leu	Pro	Ala	830	Pro	Ile
Glu	Lys	Thr	Ile	835	Ser	Lys	Ala	Lys	Gly	840	Gln	Pro	Arg	Glu	Pro	845	Gln	Val
Tyr	Thr	Leu	Pro	850	Pro	Ser	Arg	Asp	Glu	855	Leu	Thr	Lys	Asn	Gln	860	Val	Ser
865	Leu	Thr	Cys	Leu	870	Val	Lys	Gly	Phe	875	Tyr	Pro	Ser	Asp	Ile	880	Val	Glu
Trp	Glu	Ser	Asn	885	Gly	Gln	Pro	Glu	Asn	890	Asn	Tyr	Lys	Thr	Thr	895	Pro	Pro
Val	Leu	Asp	Ser	900	Asp	Gly	Ser	Phe	Phe	905	Leu	Tyr	Ser	Lys	Leu	910	Thr	Val
Asp	Lys	Ser	Arg	915	Trp	Gln	Gln	Gly	Asn	920	Val	Phe	Ser	Cys	Ser	925	Val	Met
His	Glu	Ala	Leu	930	His	Asn	His	Tyr	Thr	935	Gln	Lys	Ser	Leu	Ser	940	Leu	Ser
945	Pro	Gly	Lys			950				955								960

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 <211> 1367
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> fusion protein

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	Gly	Leu	Pro	Glu	Ala	Lys	Ile	Phe	Ser	20	Gly	Pro	Ser	Ser	Val
	Gly	Tyr	Ala	Val	Gln	Gln	Phe	Ile	Asn	25	Pro	Lys	Gly	Asn	Phe
	Val	Gly	Ser	Pro	Trp	Ser	Gly	Phe	Pro	30	Glu	Asn	Arg	Met	Leu
65	Tyr	Lys	Cys	Pro	Val	Asp	Leu	Ser	Thr	40	Ala	Thr	Cys	Glu	Val
	Leu	Gln	Thr	Ser	Thr	Ser	Ile	Pro	Asn	45	Val	Thr	Glu	Lys	Asn
	Met	Ser	Leu	Gly	Leu	Ile	Leu	Thr	Arg	50	Met	Gly	Thr	Gly	Phe
	Leu	Thr	Cys	Gly	Pro	Leu	Trp	Ala	Gln	55	Gln	Cys	Gly	Asn	Tyr
145	Ser	Phe	Ser	Pro	Ala	Thr	Gln	Pro	Cys	60	Pro	Ser	Leu	Ile	Val
										65					
										70					
										75					
										80					
										85					
										90					
										95					
										100					
										105					
										110					
										115					
										120					
										125					
										130					
										135					
										140					
										145					
										150					
										155					
										160					

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Val	Val	Cys	Asp	165 Glu	Ser	Asn	Ser	Ile	170 Tyr	Pro	Trp	Asp	Ala	175 Val	Lys
Asn	Phe	Leu	Glu	180 Lys	Phe	Val	Gln	Gly	185 Leu	Asp	Ile	Gly	190 Pro	Thr	Lys
Thr	Gln	Val	Gly	195 Leu	Ile	Gln	Tyr	Ala	200 Asn	Asn	Pro	Arg	205 Val	Val	Phe
Asn	Leu	Asn	Thr	210 Tyr	Lys	Thr	Lys	Glu	215 Glu	Met	Ile	Val	220 Ala	Thr	Ser
225 Gln	Thr	Ser	Gln	230 Tyr	Gly	Gly	Asp	Leu	235 Thr	Asn	Thr	Phe	240 Gly	Ala	Ile
Gln	Tyr	Ala	Arg	245 Lys	Tyr	Ala	Tyr	Ser	250 Ala	Ala	Ser	Gly	255 Gly	Arg	Arg
Ser	Ala	Thr	Lys	260 Val	Met	Val	Val	Val	265 Thr	Asp	Gly	Glu	270 Ser	His	Asp
Gly	Ser	Met	Leu	275 Lys	Ala	Val	Ile	Asp	280 Gln	Cys	Asn	His	285 Asp	Asn	Ile
Leu	Arg	Phe	Gly	290 Ile	Ala	Val	Leu	Gly	295 Tyr	Leu	Asn	Arg	300 Asn	Ala	Leu
305 Asp	Thr	Lys	Asn	310 Ile	Lys	Glu	Ile	Lys	315 Ala	Ile	Ala	Ser	320 Ile	Pro	
Thr	Glu	Arg	Tyr	325 Phe	Phe	Asn	Val	Ser	330 Asp	Glu	Ala	Ala	335 Leu	Leu	Glu
Lys	Ala	Gly	Thr	340 Leu	Gly	Glu	Gln	Ile	345 Phe	Ser	Ile	Glu	350 Gly	Thr	Val
Gln	Gly	Gly	Asp	355 Asn	Phe	Gln	Met	Glu	360 Met	Ser	Gln	Val	365 Gly	Phe	Ser
Ala	Asp	Tyr	Ser	370 Ser	Gln	Asn	Asp	Ile	375 Leu	Met	Leu	Gly	380 Ala	Val	Gly
385 Ala	Phe	Gly	Trp	390 Ser	Gly	Thr	Ile	Val	395 Gln	Lys	Thr	Ser	400 His	Gly	His
Leu	Ile	Phe	Pro	405 Lys	Gln	Ala	Phe	Asp	410 Gln	Ile	Leu	Gln	415 Asp	Arg	Asn
His	Ser	Ser	Tyr	420 Leu	Gly	Tyr	Ser	Val	425 Ala	Ala	Ile	Ser	430 Thr	Gly	Glu
Ser	Thr	His	Phe	435 Val	Ala	Gly	Ala	Pro	440 Arg	Ala	Asn	Tyr	445 Thr	Gly	Gln
Ile	Val	Leu	Tyr	450 Ser	Val	Asn	Glu	Asn	455 Gly	Asn	Ile	Thr	460 Val	Ile	Gln
465 Ala	His	Arg	Gly	470 Asp	Gln	Ile	Gly	Ser	475 Tyr	Phe	Gly	Ser	480 Val	Leu	Cys
Ser	Val	Asp	Val	485 Asp	Lys	Asp	Thr	Ile	490 Thr	Asp	Val	Leu	495 Leu	Val	Gly
Ala	Pro	Met	Tyr	500 Met	Ser	Asp	Leu	Lys	505 Lys	Glu	Glu	Gly	510 Arg	Val	Tyr
Leu	Phe	Thr	Ile	515 Lys	Lys	Gly	Ile	Leu	520 Gly	Gln	His	Gln	525 Phe	Leu	Glu
Gly	Pro	Glu	Gly	530 Ile	Glu	Asn	Thr	Arg	535 Phe	Gly	Ser	Ala	540 Ile	Ala	Ala
545 Leu	Ser	Asp	Ile	550 Met	Asp	Gly	Phe	Asn	555 Asp	Val	Ile	Val	560 Gly	Ser	
Pro	Leu	Glu	Asn	565 Gln	Asn	Ser	Gly	Ala	570 Val	Tyr	Ile	Tyr	575 Asn	Gly	His
Gln	Gly	Thr	Ile	580 Arg	Thr	Lys	Tyr	Ser	585 Gln	Lys	Ile	Leu	590 Gly	Ser	Asp
Gly	Ala	Phe	Arg	595 Ser	His	Leu	Gln	Tyr	600 Phe	Gly	Arg	Ser	605 Leu	Asp	Gly
Tyr	Gly	Asp	Leu	610 Asn	Gly	Asp	Ser	Ile	615 Thr	Asp	Val	Ser	620 Ile	Gly	Ala
625 Phe	Gly	Gln	Val	630 Val	Gln	Leu	Trp	Ser	635 Gln	Ser	Ile	Ala	640 Asp	Val	Ala
Ile	Glu	Ala	Ser	645 Phe	Thr	Pro	Glu	Lys	650 Ile	Thr	Leu	Val	655 Asn	Lys	Asn
			660					665					670		

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Ala	Gln	Ile	Ile	Leu	Lys	Leu	Cys	Phe	Ser	Ala	Lys	Phe	Arg	Pro	Thr
		675					680					685			
Lys	Gln	Asn	Asn	Gln	Val	Ala	Ile	Val	Tyr	Asn	Ile	Thr	Leu	Asp	Ala
	690					695					700				
Asp	Gly	Phe	Ser	Ser	Arg	Val	Thr	Ser	Arg	Gly	Leu	Phe	Lys	Glu	Asn
705					710					715					720
Asn	Glu	Arg	Cys	Leu	Gln	Lys	Asn	Met	Val	Val	Asn	Gln	Ala	Gln	Ser
				725					730					735	
Cys	Pro	Glu	His	Ile	Ile	Tyr	Ile	Gln	Glu	Pro	Ser	Asp	Val	Val	Asn
			740					745					750		
Ser	Leu	Asp	Leu	Arg	Val	Asp	Ile	Ser	Leu	Glu	Asn	Pro	Gly	Thr	Ser
		755					760					765			
Pro	Ala	Leu	Glu	Ala	Tyr	Ser	Glu	Thr	Ala	Lys	Val	Phe	Ser	Ile	Pro
	770					775					780				
Phe	His	Lys	Asp	Cys	Gly	Glu	Asp	Gly	Leu	Cys	Ile	Ser	Asp	Leu	Val
785					790					795					800
Leu	Asp	Val	Arg	Gln	Ile	Pro	Ala	Ala	Gln	Glu	Gln	Pro	Phe	Ile	Val
				805					810					815	
Ser	Asn	Gln	Asn	Lys	Arg	Leu	Thr	Phe	Ser	Val	Thr	Leu	Lys	Asn	Lys
			820					825					830		
Arg	Glu	Ser	Ala	Tyr	Asn	Thr	Gly	Ile	Val	Val	Asp	Phe	Ser	Glu	Asn
		835					840					845			
Leu	Phe	Phe	Ala	Ser	Phe	Ser	Leu	Pro	Val	Asp	Gly	Thr	Glu	Val	Thr
	850					855					860				
Cys	Gln	Val	Ala	Ala	Ser	Gln	Lys	Ser	Val	Ala	Cys	Asp	Val	Gly	Tyr
865					870					875					880
Pro	Ala	Leu	Lys	Arg	Glu	Gln	Gln	Val	Thr	Phe	Thr	Ile	Asn	Phe	Asp
				885					890					895	
Phe	Asn	Leu	Gln	Asn	Leu	Gln	Asn	Gln	Ala	Ser	Leu	Ser	Phe	Gln	Ala
			900					905					910		
Leu	Ser	Glu	Ser	Gln	Glu	Glu	Asn	Lys	Ala	Asp	Asn	Leu	Val	Asn	Leu
		915					920					925			
Lys	Ile	Pro	Leu	Leu	Tyr	Asp	Ala	Glu	Ile	His	Leu	Thr	Arg	Ser	Thr
	930					935					940				
Asn	Ile	Asn	Phe	Tyr	Glu	Ile	Ser	Ser	Asp	Gly	Asn	Val	Pro	Ser	Ile
945					950					955					960
Val	His	Ser	Phe	Glu	Asp	Val	Gly	Pro	Lys	Phe	Ile	Phe	Ser	Leu	Lys
				965					970					975	
Val	Thr	Thr	Gly	Ser	Val	Pro	Val	Ser	Met	Ala	Thr	Val	Ile	Ile	His
			980					985					990		
Ile	Pro	Gln	Tyr	Thr	Lys	Glu	Lys	Asn	Pro	Leu	Met	Tyr	Leu	Thr	Gly
		995					1000					1005			
Val	Gln	Thr	Asp	Lys	Ala	Gly	Asp	Ile	Ser	Cys	Asn	Ala	Asp	Ile	Asn
	1010					1015					1020				
Pro	Leu	Lys	Ile	Gly	Gln	Thr	Ser	Ser	Ser	Val	Ser	Phe	Lys	Ser	Glu
1025					1030					1035					1040
Asn	Phe	Arg	His	Thr	Lys	Glu	Leu	Asn	Cys	Arg	Thr	Ala	Ser	Cys	Ser
				1045					1050					1055	
Asn	Val	Thr	Cys	Trp	Leu	Lys	Asp	Val	His	Met	Lys	Gly	Glu	Tyr	Phe
			1060					1065					1070		
Val	Asn	Val	Thr	Thr	Arg	Ile	Trp	Asn	Gly	Thr	Phe	Ala	Ser	Ser	Thr
		1075					1080					1085			
Phe	Gln	Thr	Val	Gln	Leu	Thr	Ala	Ala	Ala	Glu	Ile	Asn	Thr	Tyr	Asn
	1090					1095					1100				
Pro	Glu	Ile	Tyr	Val	Ile	Glu	Asp	Asn	Thr	Val	Thr	Ile	Pro	Leu	Met
1105					1110					1115					1120
Ile	Met	Lys	Pro	Asp	Glu	Lys	Ala	Glu	Val	Pro	Thr	Asp	Pro	Glu	Glu
				1125					1130					1135	
Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro
			1140					1145					1150		
Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys
	1155						1160					1165			
Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val

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1170	1175	1180
Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp		
1185	1190	1195
Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr		
	1205	1210
Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp		
	1220	1225
Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu		
	1235	1240
Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg		
	1250	1255
Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys		
1265	1270	1275
Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp		
	1285	1290
Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys		
	1300	1305
Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser		
	1315	1320
Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser		
	1330	1335
Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser		
1345	1350	1355
Leu Ser Leu Ser Pro Gly Lys		
	1365	